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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/647,815  | 08/25/2003  | Michael C. Steiner   | L&S-1               | 2352             |
| 7590  | 09/21/2004  |                      | EXAMINER            |                  |
| Browning Bushman P.C.<br>Suite 1800<br>5718 Westheimer<br>Houston, TX 77057 |             |                      | LU, JIPING          |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 3749                |                  |

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                              |                         |
|------------------------------|------------------------------|-------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>       | <b>Applicant(s)</b>     |
|                              | 10/647,815                   | STEINER, MICHAEL C.     |
|                              | <b>Examiner</b><br>Jiping Lu | <b>Art Unit</b><br>3749 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on \_\_\_\_.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 20-23 is/are allowed.

6)  Claim(s) 1, 7-9, 13-14, 18-19 is/are rejected.

7)  Claim(s) 2-6,10-12,15-17,24 and 25 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/4/2003.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claims 24-25 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 24 failed to further limit the additional openings in claim 20. Claim 1 does not include the limitation of additional openings. Please change the dependency of 24 from "claim 1" to --claim 20--. Claim 8, the phrase "said nozzle" shows no antecedent basis. What is the difference between the burner barrel and burner assembly? Please explain.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Sujata et al (U. S. Pat. 4,915,038).

Sujata et al show a housing 10 defining a chamber 12 with air inlet 24, a peripherally extending baffle 14 disposed inside said housing 10, a first peripheral air flow passage 34 formed between the baffle 36 and the housing 12, a peripherally extending combustion liner 56 disposed

inside the baffle 36, a second peripheral extending air flow passage 36 formed between the liner 56 and the baffle 14, a reversing diverter 22 disposed in said chamber 12, a burner assembly mounting plate 42, 48 disposed in said liner 56, a burner barrel 52 mounted on the first side of the burner mounting plate 42 and a plenum 44 formed on the second side of the burner mounting plate 42, 48. For claims 8, 19 see igniter 68.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 7-9, 13-14, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sujata et al (U. S. Pat. 4,915,038) in view of Faulkner (U. S. pat. 5,275,554).

The burner apparatus of Sujata et al. as above includes all that is recited in claims 7-9, 13-14, 18-19 except for a plurality of burner assemblies mounted on the burner mounting plate. Faulkner teaches a combustion system with a plurality of burner assemblies 60 mounted on the burner mounting plate 64 same as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the burner apparatus of Sujata et al. with a plurality of burner assemblies as taught by Faulkner in order to improve the heating efficiency.

***Allowable Subject Matter***

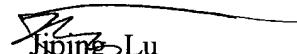
6. Claims 20-23 are allowed.
7. Claims 2-6, 10-12, 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 703-308-2354. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703 308-1935. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jiping Lu  
Primary Examiner  
Art Unit 3749

J. L.